Applicant : Feng Shi et al.
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Attorney's Docket No.: 13854-065001

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1.   (Previously Presented) A communications device comprising:

an Optical domain Adaptive Dispersion Compensation Module (OADCM) operable to provide a first dispersion compensation to a received signal, the received signal having a plurality of wavelengths;

an Electrical domain Adaptive Distortion Compensation Module (EADCM) coupled to the OADCM and operable to provide a second dispersion compensation to the received signal; and

a controller coupled to both the OADCM and the EADCM, the controller operable to selectively control a level of the first and the second dispersion compensation to be applied to the received signal, where the controller controls the EADCM based on feed forward information provided to the controller from the OADCM .

2.   (Original) The communications device of claim 1, wherein the controller controls operating characteristics of at least one of the OADCM and the EADCM.

3.   (Original) The communications device of claim 2, wherein the controller controls the OADCM based on feedback information provided to the controller from the EADCM.

4.   (Cancelled)

5.   (Original) The communications device of claim 2, further comprising:

an Optical Amplifier with automatic-Gain Control (OAGC) coupled to the OADCM and the controller.

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6.   (Original) The communications device of claim 5, further comprising:

a PIN photodiode detector in combination with a trans-impedance amplifier (PIN/TIA) coupled to the OAGC and the controller.

7.   (Original) The communications device of claim 1 integrated into an optical signal receiver, wherein the EADCM provides signal distortion measurements to the controller taken from an incoming signal, the controller in turn adjusting the respective operating characteristics of the OADCM, and wherein in operation at least one of the EADCM and OADCM apply dispersion compensation to the incoming signal.

8.   (Original) The communications device of claim 7, wherein the EADCM provides polarization mode dispersion compensation.

9.   (Original) The communications device of claim 7, wherein the OADCM provides chromatic dispersion compensation.

10.   (Original) The communications device of claim 7, wherein the EADCM includes an equalizer that produces symbol estimates.

11.   (Original) The communications device of claim 7, wherein the EADCM includes a blind equalizer that produces error values.

12.   (Original) The communications device of claim 1 integrated into an optical signal transmitter, wherein in operation at least one of the EADCM and OADCM provides pre-emphasis to a transmitted optical signal to substantially overcome dispersion the transmitted optical signal will encounter en route to a receiver.

13-16. (Cancelled)

17.   (Previously Presented) A method comprising:

   i) measuring signal distortion of an electrical signal having a plurality of channels;

   ii) processing the signal distortion measurements to produce at least one control value for one of an optical domain adaptive dispersion compensation module ("OADCM") or an electrical domain adaptive distortion compensation module ("EADCM"); and

   iii) selectively applying the at least one control value to the EADCM to provide dispersion compensation to the optical signal, using feed forward information provided to the controller from the OADCM.

18.   (Previously presented) The method according to claim 17, wherein the signal distortion measurements are signal quality measurements.

19.   (Previously presented) The method according to claim 17, wherein the signal distortion measurements are symbol error estimates.

20.   (Previously presented) The method according to claim 17, wherein the signal distortion measurements are error values.

21-23. (Cancelled)